

REMARKS

Reconsideration of the application, as amended, is respectfully requested.

I. STATUS OF THE CLAIMS

Claims 1-22 are currently pending. Claims 1, 4, 8, 12, 14, 15, 16, 21 and 22 have been amended to more particular point out and distinctly claim that which Applicants regard as their claimed invention. In particular, claims 1, 4 and 12 have been amended to further clarify that the photosensitive organometallic complex includes one of an Ag transition compound including Ag and an ultraviolet sensitive organic ligand or an Al transition compound including Al and an ultraviolet sensitive organic ligand.

Support for the above amendments may be found throughout the specification as originally filed. No new matter has been added by virtue of this amendment.

II. 35 U.S.C. 103(a) REJECTIONS

(i) Claims 1-7 and 9-13 have been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,919,931 to Chae ("the Chae patent") in combination with U.S. Patent No. 6,524,663 to Kelly et al. ("the Kelly patent") and U.S. Patent No. 5,882,722 to Kydd et al. ("the Kydd patent").

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (See MPEP 2143.03; In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)).

In response, it is respectfully submitted that the combination of Chae, Kelly and Kydd fails to teach or suggest all of the features recited in claims 1, 4, 5, 10 and 12 of the presently claimed invention

As noted above, claims 1, 4 and 12 have been amended to further clarify that the photosensitive organometallic complex includes one of an Ag transition compound

including Ag and an ultraviolet sensitive organic ligand or an Al transition compound including Al and an ultraviolet sensitive organic ligand.

In particular, the combination of Kelly, Chae and Kydd at the very least fails to teach or suggest a method of forming a metal pattern (claim 1), a method of manufacturing a thin film transistor array panel (claims 4 and 5) or a thin film transistor array panel (claims 10 and 12), wherein a photosensitive organometallic complex includes one of an Ag transition compound including Ag and an ultraviolet sensitive organic ligand or an Al transition compound including Al and an ultraviolet sensitive organic ligand, as essentially recited in claims 1, 4, 5, 10 and 12, respectively.

As conceded by the Examiner in the instant Office Action, Chae fails to teach or suggest the photosensitive organometallic complex recited in claims 1, 4, 5, 10 and 12. (See pages 3 and 4 of the instant Office Action). Furthermore, the combination of Chae, Kelly and Kydd fails to cure the above deficiency of the Chae patent for at least the reasons set forth below.

For instance, Kelly at the very least fails to teach or suggest a photosensitive organometallic complex which includes one of an Ag transition compound including Ag and an ultraviolet sensitive organic ligand or an Al transition compound including Al and an ultraviolet sensitive organic ligand, as essentially recited in 1, 4, 5, 10 and 12. Rather, the only organometallic compounds described in Kelly include the metals palladium, platinum, rhodium and iridium. The other metals described in Kelly and referred to in the instant Office Action such as "cu, ni, gold and other suitable metals" are not part of the organometallic surface activation compound of Kelly, but rather these are metals which are subsequently deposited on a desired substrate during an electroless plating step after the exposure of the organometallic surface activation compound has already taken place. (See columns 7-8 of Kelly). In other words, Kelly teaches that the deposited metals (i.e., cu, ni, gold and other suitable metals) referred to therein are separate and apart from the organometallic compounds.

Consequently, for at least the above reasons, the statement in the instant Office Action on page 4, that "other suitable metals" referred to in Kelly inherently includes Al, still does not show that Kelly teaches or suggests Al as part of an photosensitive organometallic complex as required by claims 1, 4, 5, 10 and 12 because, as discussed above, the term "other suitable metals" as used in Kelly refers to metals used as a part of an electroless plating step but is not referring to metals used as part of the organometallic compound. Thus, Kelly is completely silent regarding photosensitive organometallic complexes which include Ag or Al, as required by claims 1, 4, 5, 10 and 12.

Next, Kydd also at the very least fails to teach or suggest a photosensitive organometallic complex which includes one of an Ag transition compound including Ag and an ultraviolet sensitive organic ligand or an Al transition compound including Al and an ultraviolet sensitive organic ligand. Although Kidd appears to describe the use of Ag as part of certain organometallic compounds, Kydd is still completely silent regarding a photosensitive organometallic complex which includes an ultraviolet sensitive organic ligand as required by claims 1, 4, 5, 10 and 12.

Moreover, due the unpredictability of the chemical art it would not have been obvious to one skilled in the art to modify the organometallic compounds of either Kelly or Kydd to correct the above noted deficiencies of these references in an attempt to arrive at a photosensitive organometallic complex which includes one of an Ag transition compound including Ag and an ultraviolet sensitive organic ligand or an Al transition compound including Al and an ultraviolet sensitive organic ligand, as essentially recited in 1, 4, 5, 10 and 12 with a reasonable expectation of success. It is a well established fact that in the field of U.S. patent law that the chemical art is an unpredictable art. (See In re Marzocchi, 439 F.2d 220, 223-24, 169 USPQ 367, 368-70 (CCPA 1971) and 2164.03 of the MPEP). Thus, the substitution of one type of element or compound for another or even the slightest change in a chemical compound may alter the chemical properties and reactive properties of a chemical composition.

As discussed above, the organometallic compounds described in Kelly and Kydd are not the same chemical or physically as the photosensitive organometallic complexes recited in claims 1, 4, 5, 10 and 12. In contrast, Kelly only describes using organometallic compounds which include the metals padalladium, platinum, rhodium and indium. However, the above metals of Kelly are part of a group known platinum group metals, a group in which neither Ag or Al is a part of. It is well known in the art that these platinum group metals possess differing chemical and physical properties in comparison to other metals such as Ag or Al. Accordingly, none of the above platinum group metals described in Kelly are equivalent to Ag or Al.

Also, as mentioned, even though Kydd appears to describe the use of Ag as a part of certain organometallic compounds, Kydd is still completely silent regarding a photosensitive organometallic complex which includes an ultraviolet sensitive organic ligand. Clearly, the chemical and physical properties of organometallic compounds which include ultraviolet sensitive ligands differ significantly from organometallic complexes which do not include ultraviolet sensitive ligands.

Therefore, due to the unpredictability of chemical art and the significant differences in the chemical/physical properties of the organometallic compounds described in Kelly and Kydd in comparison to the photosensitive organometallic complexes recited in claims 1, 4, 5, 10 and 12, it would not have been obvious to one skilled in the art to modify either the Kelly or Kydd organometallic compounds in attempt to arrive at a photosensitive organometallic complex which includes one of an Ag transition compound including Ag and an ultraviolet sensitive organic ligand or an Al transition compound including Al and an ultraviolet sensitive organic ligand, as essentially recited in 1, 4, 5, 10 and 12 with a reasonable expectation of success.

Accordingly, for at least the reasons set forth above, the combined teachings of Chae, Kelly and Kydd fail to teach or suggest all of the features recited in claims 1, 4, 5, 10 and 12. Thus, withdrawal of the rejection to claims 1, 4, 5, 10 and 12 is respectfully requested. As claims 2, 3, 14, 15 depend from and incorporate all of the limitations of


claim 1, claims 6-9 and 16 depend from and incorporate all of the limitations of claim 4, claims 6, 7, 9, 17 and 18 depend from and incorporate all of the limitations of claim 5, claims 11, 19 and 20 depend from and incorporate all of the limitations of claim 10, and claims 21-22 depend from and incorporate all of the limitations of claim 12, withdrawal of the rejection to these dependent claims is likewise requested.

III. CONCLUSION:

For the foregoing reasons, the present application is believed to be in condition for allowance. The Examiner's early and favorable action is respectfully requested.

The Examiner is invited to contact the undersigned if he has any questions or comments in this matter.

Respectfully submitted,



Scott L. Appelbaum
Reg. No. 41,587
Attorney for Applicant

F. Chau & Associates, LLC
130 Woodbury Road
Woodbury, NY 11797
Tel: (516) 692-8888
Fax: (516) 692-8889